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OBJECTIVES: To provide an overview on published decision-analytic models evaluating treatment strategies for multiple myeloma (MM) focusing on the cost-effectiveness results. **METHODS:** A systematic literature search was performed in the electronic databases Pubmed, NHS EED and the Tufts CEA Registry to identify studies evaluating MM treatment strategies using mathematical decision-analytic models. To meet the inclusion criteria, models were required to compare different treatment strategies, to be published as full text articles in English, and comprise relevant clinical health outcomes over a defined time horizon and population. We used evidence tables to summarize methodological characteristics and economic results. For comparability, all economic results were transferred into 2012 US Dollar. We used Purchasing Power Parity to convert the currency into US Dollar of the same year. For converting US Dollar from step one into US Dollars 2012, we used Consumer Price Index rates for the relevant year. **RESULTS:** We found eleven decision-analytic modeling studies. Economic evaluations were included in all studies. Eight studies reported cost-utility results. The modeling approaches applied included a decision tree model, Markov cohort model, discrete event simulations, partitioned survival analyses and area under the curve models. Time horizons ranged from seven years to lifetime. Half of the models chose the perspective of the health care system, while other perspectives were societal, third party payer and government payer. Among others, two studies reported cost-effectiveness of autologous transplantation vs. standard-dose melphalan with an ICER of $31,263 /life-year gained (LYG) and $36,778/LYG. One study reported that bortezomib vs. lenalidomide plus dexamethasone is cost saving, while another comparable study reported an ICUR for lenalidomide plus dexamethasone vs. bortezomib of $22,301/QALY. **CONCLUSIONS:** We identified several well-designed cost-effectiveness/cost-utility models using a broad variety of different modeling approaches. Results of most of the studies were not comparable due to different treatment strategies, target population and settings.

PCN107

ECONOMIC EVIDENCE OF SURGICAL PROCEDURES IN CANCER: A SYSTEMATIC LITERATURE REVIEW

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OBJECTIVES: To examine the empirical and methodological cost-effectiveness evidence of surgical interventions for breast, colorectal, and prostate cancer. **METHODS:** Systematic searches of seven databases including MEDLINE, EMBASE, CDSR,HTA, DARE, EconLit and NHSEED, research registers, the National Institute of Health and Care Excellence (NICE) website and conference proceedings was conducted in April 2012. Studies were included if they evaluated the cost-effectiveness of a surgical procedure in either breast, colorectal or prostate cancer and reported cost per quality adjusted life-year or cost per life-year results. The quality of the studies included was assessed in terms of meeting essential, preferred, and UK specific requirements for economic evaluations. **RESULTS:** The 17 (breast=3,colorectal=7,prostate=7) studies which satisfied the inclusion criteria covered a broad range of settings with 9 set in European and 8 in non-European locations. Just a third (11/17) was published within the last 10 years. In terms of the essential quality criteria; the populations, interventions and comparators were generally well defined. However, very few studies were informed by the results of literature reviews or synthesised clinical evidence. Although the interventions had potential differential effects on recurrence and mortality rates, some studies used relatively short time horizons. Although univariate sensitivity analyses were reported in all studies, less than a third characterised all uncertainty with a probabilistic sensitivity analysis. While a third of studies incorporated patients' health-related quality of life data, only 4 of the 17 studies used social tariff values. **CONCLUSIONS:** There is very little recent robust evidence describing the cost-effectiveness of surgical interventions in these indications. Many of the more recent publications did not satisfy the essential methods requirements, such as using synthesising clinical evidence informed by a systematic literature review. Given the ratio of potential benefit and harm associated with surgery in cancer, there is an urgent need to conduct additional robust economic evaluations in this area.

PCN108

ABIRATERONE ACETATE VERSUS ENZALUTAMIDE FOR METASTATIC CASTRATION-RESISTANT PROSTATE CANCER POST CHEMOTHERAPY: COST EFFECTIVENESS ANALYSIS

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OBJECTIVES: With approvals of abiraterone acetate (AA) and enzalutamide (ENZA) in the past 2 years, the treatment landscape has shifted dramatically for metastatic castration-resistant prostate cancer (mCRPC) patients who failed docetaxel-based chemotherapy. There is increasing interest in the relative cost-effectiveness of these therapies. The objective of this study was to assess the cost-effectiveness of AA versus ENZA among individuals with mCRPC post chemotherapy from a payer perspective. **METHODS:** A survival-based Markov cohort model consisting of 3 health states, progression-free, progressed, and dead, was developed to project over 10 year period. Progression between states was determined by overall survival (OS) and radiographic progression free survival (rPFS). An indirect treatment comparison was conducted to determine the relative efficacy of AA and ENZA (data reported separately). Utilities were mapped from FACT-P to EQ-5D based on a review of the literature. Drug acquisition costs in the US were used since ENZA was approved only in the US at the time of analysis. Costs of scheduled and unscheduled follow-up visits were obtained from the Centers for Medicare Services Drug Payment Table and Physician Fee Schedule and represented in 2013 US dollars. Average wholesale prices for a 30-day supply of AA and ENZA were $7,674 and $8,940, respectively. One-way sensitivity analyses were performed against all probability, utility, and cost values incorporated into this cost-effectiveness model. **RESULTS:** In this analysis, AA provides substantial saving with $13,322 per patient versus ENZA. The main drivers of the model are drug costs, health utility values, and efficacy (OS and rPFS). The robustness of the results was supported by sensitivity analyses. **CONCLUSIONS:** Given similar OS benefits, AA is cost saving compared with ENZA for the treatment of patients with mCPRC post-docetaxel based on US data.

PCN109

COMPARATIVE STUDY OF THE COST-EFFECTIVENESS OF TRASTUZUMAB IN THE TREATMENT OF BREAST CANCER IN DIFFERENT COUNTRIES

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OBJECTIVES: Pharmacoeconomic evaluations are more critical in developing countries in which economic effects of new and expensive therapies have significant impact on patients, insurance companies and the health systems. Since cost-effectiveness studies are too costly and time consuming, in these countries new medications are often being used in daily practice before being well documented as cost-effective interventions. This would force health organizations to perform comparative studies as alternatives to cost-effectiveness analysis. Trastuzumab, an anti-cancer monoclonal antibody which was approved by FDA in 1998, is an expensive medicine introduced to the Iranian pharmaceutical market since 2003, with an annual usage cost of 308,352,730,640 Rials ($ US 25,000,000) in 2010. **METHODS:** A systematic review on electronic medical databases including the Cochrane, CRD, EMBASE, HEED, MEDLINE, and PubMed, covering the years 2000 to 2009, was performed using relevant key words to extract publications investigating cost-effectiveness and efficacy of trastuzumab in breast cancer treatment. The Incremental Cost-Effectiveness Ratios (ICERs) were compared with a criterion introduced by WHO. **RESULTS:** The reported ICERs were between $90,118/QALY to $217,264/QALY and $13,361/QALY to $65,250/QALY in metastatic and adjuvant breast cancer therapy, respectively. The metastatic ICERs were 8 to 20 folds of the GDP per Capita in Iran whereas the adjuvant phase ICERs were 1.2 to 6 folds of it. Sensitivity analysis showed the results are more sensitive to discount rate, drug regimen cost, duration of survival benefits, as well as the risk of relapse and metastasis. **CONCLUSIONS:** Trastuzumab therapy in metastatic breast cancer cannot be cost effective in Iran, however as adjuvant therapy it is still a challenging issue. Unlimited access to this medicine would not be rational and recommendations with an approach to optimize its usage, e.g. administration in younger patients with poor prognosis and higher risk of relapse or using clean rooms to reduce drug wasting, are strongly advised.

PCN110

THE COST-EFFECTIVENESS OF BENDAMUSTINE-RITUXIMAB VERSUS FLUDARABINE-RITUXIMAB FOR PATIENTS WITH INDOLENT NON-HODGKIN'S LYMPHOMA (INHL) WHO HAVE PROGRESSED FOLLOWING TREATMENT WITH RITUXIMAB OR A RITUXIMAB-CONTAINING REGIMEN IN MEXICO

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OBJECTIVES: To determine the cost-effectiveness of bendamustine-rituximab (Ben-R) versus fludarabine-rituximab (Fdb-R) in patients with iNHL who have progressed following treatment with rituximab or a rituximab-containing regimen in Mexico. **METHODS:** An economic model was constructed from the Mexican public payer perspective, with a 35-year (lifetime) horizon and a discount rate of 5%. The model included three health states, progression-free (PF), progressive disease (PD), and death, which were associated with utility weights of 0.81, 0.62 and 0, respectively. Clinical inputs (response rates, Kaplan-Meier curves, hazard ratios (HRs) and adverse event rates) were from the Stil NHL 2-2003 study. Resource use data were from interviews with Mexican hematologists treating iNHL patients. Unit costs were obtained from Mexican Social Security Institute (IMSS) and were expressed as 2013 Mexican Pesos. Univariate and probabilistic sensitivity analyses were conducted to determine the key drivers of cost-effectiveness, and uncertainty around the results, respectively. **RESULTS:** Total cost of Ben-R was $1,726,828 and total cost of Fdb-R was $1,640,024. Ben-R patients accrued more LYs (5.82 vs. 4.73), QALYs (4.22 vs. 3.29), and PF LYs (3.37 vs. 1.96) compared to Fdb-R patients. The ICERs were $79,890 (cost per LY), $92,788 (cost per QALY) and $61,486 (cost per PF LY). Univariate sensitivity analysis revealed that the ICER per LY was most sensitive to the PF survival (PFS) and overall survival (OS) HRs for Ben-R vs Fdb-R and the use of bone marrow transplants in the PD state. Probabilistic sensitivity analysis with 1,000 iterations estimated that Ben-R will be cost effective over 90% of the time at a willingness-to-pay threshold of $125,085. **CONCLUSIONS:** At a willingness-to-pay of $125,085 (GDP per capita of Mexico) Ben-R is cost effective versus Fdb-R.

PCN111

A COST-EFFECTIVENESS ANALYSES OF USING SUNITINIB (SU) IN FIRST LINE OF METASTATIC RENAL CANCER IN ROMANIAN JURISDICTION

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OBJECTIVES: In Romania the estimated incidence of metastatic renal cancer (mRCC) is about 1500 cases; less than 400 patients receive full reimbursement for

their therapy. Our objective was to assess the cost-effectiveness of Sunitinib (SU) in the first-line treatment of mRCC patients in comparison with Bevacizumab (BEV) + IFN- and Sorafenib (SO) -at the level of 2011 year- based on the latest clinical evidence. **METHODS:** A Markov model (comprised of four states: 1st line treatment, 2nd line, Best Supportive Care and Death) was validated in several countries and was adapted for the Romanian jurisdiction. The model was set to 6 weekly cycles for a period of 10 years, which corresponds with a lifetime length scenario. Costs for medication and application were derived from hospital databases, expert panels and structured interviews. Experts that managed more than 60% of all local mRCC were consulted. These experts identified several scenarios related to outpatient and inpatient treatment decisions predominantly based on social reasons; all these scenarios have been tested. A WHO methodology was used to set a threshold of price per QALY (3 x local GDP) **RESULTS:** Cost per cycle in 1st line was lower than both 2nd line and BSC – consistent with other international findings. Neutropenia, proteinuria and heart failure have been identified as the most costly adverse events. The QALYs for SU was 1.86 compared to BEV 1.7 and SO 1.69. Incremental cost per QALY SU versus SO was 14.000 EURO and, respectively, -141.000 EURO versus BEV. **CONCLUSIONS:** Sutent is cost effective versus SO and dominant to BEV in the treatment of mRCC in the study settings. The model was very sensible to price of medication and cost of BSC.

PCN112

THE POTENTIAL COST-EFFECTIVENESS OF OBINUTUZUMAB (GA101) IN COMBINATION WITH CHLORAMBUCIL IN CHRONIC LYMPHOCYTIC LEUKEMIA

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OBJECTIVES: Obinutuzumab is the first, glycoengineered type II antibody demonstrating increased Antibody-Dependent Cell-Mediated Cytotoxicity (ADCC) and direct cell death compared with rituximab, and is pending regulatory approval (in combination with chlorambucil (Clb)) for the treatment of patients with previously untreated chronic lymphocytic leukemia (CLL). Obinutuzumab+Clb has shown a > 85% reduction in the risk of progression, relapse or death in comparison to treatment with Clb alone (HR 0.14, 95% CI 0.09-0.21, p <.0001), a broadly accepted treatment option for many patients with co-existing medical conditions. The cost-effectiveness of this innovative therapy will need to be assessed in countries using incremental cost-effectiveness thresholds to make reimbursement decisions. **METHODS:** A four-state Markov lifetime model from the UK NHS perspective was developed for patients with existing medical conditions utilizing the patient-level information from the underlying clinical trial comparing obinutuzumab+Clb versus rituximab+Clb and versus Clb alone (CLL11 trial). Transition probabilities from PFS to progression were derived from this study's data. Post-progression survival was estimated using published data and was part of the sensitivity analyses. Cost data (e.g. administration and adverse events), utilities and the prices for rituximab and Clb were retrieved for the UK. As obinutuzumab is not yet approved a range of price assumptions of similar innovative oncology therapies has been applied. **RESULTS:** Based on this early evaluation, obinutuzumab+Clb showed a cost per QALY in the base case analysis of £18,000 to £19,000 when compared to Clb and £29,000 to £32,000 when compared to rituximab+Clb. Probabilistic and deterministic sensitivity analyses confirmed these findings. **CONCLUSIONS:** Obinutuzumab+Clb showed significant patient-relevant clinical benefits and might be a potential cost-effective therapy in comparison to the current standard of care and could hence support access for a maximum number of patients with previously untreated CLL.

PCN113

COST-EFFECTIVENESS OF BREAST CANCER SURVEILLANCE BY LIFETIME RISK IN WOMEN AGED LESS THAN 50 YEARS

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OBJECTIVES: National programmes of breast cancer screening are common for women over the age of 50 at average risk. For women aged less than 50, surveillance may be offered to those at elevated risk either due to family history or because of identified genetic risk factors, such as a BRCA1 mutation. The lifetime risk for these women is not known with certainty. The purpose of this study was to examine the cost-effectiveness of different screening strategies as a function of lifetime risk. **METHODS:** A Markov model was developed to evaluate the cost-effectiveness of different MRI- and digital mammography-based surveillance strategies between the ages of 30 and 49. Costs and benefits were calculated to life expectancy. The perspective was that of the publicly funded health care system in Ireland. Lifetime risk of developing breast cancer was varied between 4% and 94%. A cost-effectiveness threshold of €45,000/QALY was applied. **RESULTS:** The probability of cost-effectiveness increased with increasing lifetime risk. For women at moderate risk (i.e. lifetime risk of between 17% and 30%), cost-effectiveness was only achieved with annual surveillance from the age of 40 to 49 when lifetime risk reached 28% to 30%. For women with high familial risk, cost-effectiveness was achieved for surveillance from the age of 40 to 49. For women with a BRCA1 mutation, surveillance from the age of 40 to 49 was cost-effective for all levels of lifetime risk, while MRI from age 30 was only cost-effective for a lifetime risk of over 65%. **CONCLUSIONS:** Risk levels for breast cancer encompass wide ranges of lifetime risk. The cost-effectiveness of different surveillance strategies is sensitive to lifetime risk and suggests the need for individualised surveillance programmes.

PCN114

COLLABORATIVE CARE FOR DEPRESSION MANAGEMENT IN CANCER: A COST-EFFECTIVENESS ANALYSIS

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OBJECTIVES: Collaborative care interventions for comorbid depression have demonstrated their beneficial impact on health outcomes. Depression in cancer patients is associated with decreased quality of life, and poorer health outcomes. Therefore, there may be considerable gains in the adequate treatment of depression in oncology patients. We explored the cost-effectiveness of a collaborative care intervention specifically developed for the treatment of depression in cancer patients compared to usual practice. **METHODS:** A cost-effectiveness analysis comparing a collaborative care intervention for depression management, Depression Care for People with Cancer (DCPC), in addition to usual care with usual care alone, based on data from the second Symptom Management Research Trials in Oncology (SMaRT-2). SMaRT-2 was a large (n=500), multicentre study, in depressed patients with a relatively good cancer prognosis, in a secondary care setting. Outcomes included costs expressed as UK sterling in 2010-11 prices and health outcomes in quality-adjusted life-years (QALYs), estimated from a National Health Service and Personal Social Services perspective. Scenario analyses were performed to determine the impact on cost-effectiveness of alternative costing assumptions, and uncertainty was characterised through cost-effectiveness acceptability curves and probabilities of cost-effectiveness at key cost-effectiveness thresholds. **RESULTS:** DCPC in addition to usual care was associated with greater costs, but also improved health outcomes. DCPC was found to be cost-effective at accepted cost-effectiveness thresholds. Results were robust across alternative scenarios, with probabilities of cost-effectiveness higher than 90% for cost-effectiveness thresholds ranging between £20,000-30,000 per QALY. **CONCLUSIONS:** Compared to usual care, DCPC in addition to usual care is likely to be cost-effective at current UK cost-effectiveness thresholds. This contributes to the growing evidence on the cost-effectiveness of collaborative care interventions for the treatment of comorbid depression. Future research will use a decision modelling approach to extrapolate trial-based results across a longer time horizon, and incorporate other relevant sources of evidence.

PCN115

PHARMACOECONOMIC EVALUATION OF ABIRATERONE ACETATE VERSUS CABAZITAXEL IN THE TREATMENT OF METASTATIC CASTRATION-RESISTANT PROSTATE CANCER IN KAZAKHSTAN

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OBJECTIVES: The purpose of this study was to explore the cost-effectiveness of abiraterone acetate (abiraterone) vs. cabazitaxel in metastatic castration-resistant prostate cancer (mCRPC) patients who progressed after docetaxel in Kazakhstan. **METHODS:** Since no head-to-head trial data were not available for Abiraterone against cabazitaxel, indirect profitability model was developed using clinical data (progression-free survival (PFS), overall survival (OS), adverse events (AEs)) from the pivotal Phase 3 clinical trials COU-AA-301 (Abiraterone) and TROPIC (cabazitaxel). The basic assumption in the model was that the two comparator arms in the trials were "palliative" and are therefore equivalent. Using the resources, in particular for controlling the adverse events was calculated based on data Kazakhstan. For validation purposes, a secondary analysis was conducted using international resources use data. The analysis used a local expenditures 2011-2012, undiscounted. Hospitalization, day hospital visits, medications, and laboratory tWe developed a Markov microsimulation model with a lifetime horizon and a direct health-care cost perspective. The patient history was recorded and was used in calculations of transition probabilities, utilities, and costs. ests were taken from the public officially published rates. The cost of purchasing drugs came from recent price lists . Calculations were based on the average duration of treatment for each agent. **RESULTS:** The total cost of treatment was lower for Abiraterone compared with cabazitaxel. Higher costs for the purchase of medicines for Abiraterone were offset by lower administrative expenses and lower AE management costs. Results were confirmed by secondary analysis. All sensitivity analyzes from the point of view of the model parameters and modeling assumptions are consistent with the expected findings, which confirmed both internal and external consistency of the model. **CONCLUSIONS:** Abiraterone is a potentially cost-effective option compared with cabazitaxel in the health care system in Kazakhstan.

PCN116

REDUCING THE LENGTH OF ANTIBIOTIC PROPHYLAXIS IN CLINICAL CONDITIONS

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OBJECTIVES: The aim of this study was to evaluate duration and cost of prophylactic use of antibiotics, as well as occurrence of postoperative infection in the patients (pts) with laryngeal and pharyngolaryngeal carcinoma during 2005 and 2010. **METHODS:** Histories from 87 pts (2005) and 92 pts (2010) who were treated during the year 2005 and 2010 from laryngeal and pharyngolaryngeal carcinoma at the ENT Clinic, Clinical Center of Vojvodina, Novi Sad, Serbia, have been used. All pts received triple drug therapy perioperatively. Since 2009, additional hygienic measures and education of staff (in terms of the proper use of antibiotics) have been taken to improve hospital treatment. From the patients' histories, we followed: average length of hospital stay,average length of administrating antibiotics, occurrence of infection or other postoperative complication (fistula) and the price of used antibiotics. **RESULTS:** During 2005, antibiotics were administrated as follows: aminoglycosides (amikacin) 2x500mg during 10 days, cephalosporin (cefazolin amp. 2x1g, cefrtriakson 2x1g) 10 days, metronidazole (solutio) 3x500mg 10 days.During 2010, same anibiotics were administerd for an average of 3 days. The average length of hospital stay was in 2005. was 13.5 days, x+/- SD=13.5+/-4.2, and in 2010 was 11.18 days, x+/- SD=11.18+/-5.9. The average length of administrating antibiotics was 9.4 days in 2005 (x+/- SD=9.4+/-1.1) and in 2010 was 3.4 days (x+/- SD=3.4+/-1.7). Occurrence of infection was in 4 pts (2005) and 6 pts (2010). The cost of used antibiotics in 2005.was 775748 dinars (9320 euros), and in 2010. was 366159 dinars (3698euro). **CONCLUSIONS:** With reducing the length of administrating same antibiotics, after additional hygienic and educative measures have been taken, it is possible to significantly reduce the length of hospital stay (while the number of postoperative infections is not significantly increased) and cost of used antibiotics, which altogether leads to reduction of overall cost of hospital treatment.